

# PRIAMUS

RESULTS OF THE SCIENTIFIC RESEARCHES ON ENTOMOLOGY \* ERGEBNISSE  
DER WISSENSCHAFTLICHEN UNTERSUCHUNGEN AUS DEM GEBIET DER ENTOMO-  
LOGIE\*ENTOMOLOJİ ALANINDAKİ BİLİMSSEL ARAŞTIRMALARIN SONUÇLARI \*

VOLUME 4 PART 4

ANKARA

25.01.1989

## RESULTS OF THE LEPIDOPTEROLOGICAL EXPEDITION TO NORTH PAKISTAN IN 1987, Part 1:INTRODUCTION

by

Ahmet Ü.Koçak

A b s t r a c t : Priamus 4(4): 129-140, 1 map.

In this paper, the collecting data of the lepidopterological expedition to North Pakistan, made by the author in 1987, are given.

Pakistan lies between 23°-37° N and 61°-81° E on the continent of Asia, with a total area of 804.152 sq.km. Northern area of the country is bounded on the north-west by Afghanistan and on the north-east by China and India. These mountainous areas vary altitudinally from about 500 to 8600 metres.

In 1987, I undertook a lepidopterological expedition to the northern areas of Pakistan in collaboration with the Pakistan Forest Institute Peshawar (PFI). The journey was made by PIA from Istanbul through Islamabad to Peshawar and back to Istanbul on 11th/13rd June and 3rd/4th August 1987. During my residence in PFI, I have found opportunities to observe and to collect some day-flying Lepidoptera in the garden of the Campus. Separately, two collecting trips have been planned to North Pakistan. The first was realized between 18th June and 2nd July to Swat, while the second to Hazara, Gilgit Agency, Baltistan, Swat, and Dir between 8th July and 26th July. Unfortunately, because of the illness, I had to stop the studying in the second trip and finished the work earlier than it was planned.

In this introductory article the collecting stations, including also a short characterisation of each are given. The list is, on the whole, arranged in the chronological order in which collecting was made in the localities.

The geographical names used in this list as well as in the further articles correspond exactly to the present official terminology used in the Pakistan Islamic Republic. The altitudes above sea-level are given in metres.

The collecting stations and some informations are given below.

<u>Collecting number</u>	<u>C o l l e c t i n g   d a t a</u>
001.....	Campus of PFI, ca. 500m., 13 06 1987, all specimens collected were heliophil.
002.....	Same place, 13 06 1987, some pyrophil specimens were captured at the light.
003.....	Same place, 14 06 1987, in the morning hours, 7.30-8.30 a.m. heliophil specimens observed and collected.
004.....	Same place, 15 06 1987, heliophil butterflies and moths were captured.
005.....	Same place, 16 06 1987, specimens were collected from Vitex.
006.....	Swat valley, Kalam, 2100m., 19 06 1987, after a heavy rain moths were collected by the light trap between 8.30-10.30 p. m. (20 W super actinic tube was used)
007.....	Swat, Usho valley, NE of Kalam, 2120m. openings of Quercus forest on the rocky slopes, 20 06 1987, heliophil specimens were scarce.
008.....	Swat, Ghorkin in the Usho valley (NE of Kalam) 2200m., 20 06 1987, on the slopes with soft-leaved Astragalus sp. and cultivated area especially pierids were observed.
009.....	Swat, Kalam 2400m., 20 06 1987, heliophil and sciophil specimens were taken at damp meadows
010.....	Swat, Kalam 2000m., 20 06 1987, pyrophil moths were captured at the light trap. The site was located in a narrow valley with rocky steep slopes covered esp. by Cedrus deodara.
011.....	Swat valley, Laikot 1820m., 22 06 1987, rocky slopes covered sparsely by Astragalus. Diurnal specimens were scarce. Two sohingids newly emerged were found inside the Astraga-

- lus scrub in the morning hours.
- 012..... Swat valley, Laikot 1760m., 22 06 1987, heliophil specimens sucking nectar from *Carduus* were captured.
- 013..... Swat valley, Laikot 1730m., 22 06 1987, esp. males of *Pieris canidia*, drinking on wet ground, were recorded.
- 014..... Swat valley, N. Madyan, behind Hotel Mountain View, 1500m., 22 06 1987, mainly lycaenids were recorded in the evening hours on the rocky slopes covered by *Quercus* sp., *Olea cuspidata*, *Plecthranthus rugosus* (Labiatae).
- 015..... Same place, 1400m., 22 06 1987, pyrophil moths were captured at the light trap after a heavy rain. The result was not satisfactory because of the strong, cold wind and rain.
- 016..... Swat valley, Madyan 1400m., 22 06 1987, pyrophil moths, resting on the walls of Hotel Madyan, were collected by day.
- 017..... Swat, E. of Madyan, Dara valley at hatchery 1400m., 23 06 1987, specimens were generally heliophil (geometrids sciophil) on the semi-cultivated steep slopes with rich plant cover.
- 018..... Swat, E. of Madyan, Dara valley, 1400m., 23 06 1987, heliophil specimens were not scarce on dry river bed with *Rumex-Plecthranthus rugosus* community.
- 019..... Swat, Batiband in the Dara valley, 1600m., 23 06 1987, all specimens captured were heliophil on the semi-cultivated slopes.
- 020..... Swat, Batiband 1600m., 23 06 1987, specimens were captured at grassy sites on the river bed, all heliophil.
- 021..... Swat, Dara valley at hatchery, 1400m., 23 06 1987, pyrophil moths were captured at the light trap.
- 022..... Swat, Shangla, Forest Rest House, 2170m., 24 06 1987, few specimens were captured by day.

- 023..... Swat,roadside Alpurai/Dhehrai 1200m.,  
24 06 1987,steep slopes covered by rich  
plant formations of Rosaceae,Leguminosae  
and various grasses. Recorded specimens  
were heliophil.
- 024..... Swat,Alpurai,Belibaba 1300m.,24 06 1987,  
All were heliophil.
- 025..... Swat,Yekhtangi Forest,2100m.,24 06 1987,  
middle height mountainous area covered by  
*Pinus wallichiana*,with *Alnus* sp. communities  
in the glens.Specimens recorded and collected  
in the evening hours were sciophil.
- 026..... Swat,Yekhtangi Forest,2100m.,24 06 1987.  
Pyrophil moths were captured at the light  
trap between 8.30-9.30 p.m.(ca. 15<sup>o</sup>-13<sup>o</sup>C).
- 027..... Swat,Yekhtangi Forest,1800-1900m.,25 06 1987.  
Satyrids were collected from rocky,grassy  
steep slopes in the openings. All were  
sciophil.
- 028..... Swat,Bazarkot village,1740m.,25 06 1987.  
*Chaetoprocta odata* Hew.(Lycaenidae) were  
collected from *Juglans regia* and also from  
lower plants growing under the trees in  
shadow. Specimens were heliophil/sciophil.
- 029..... Swat,Bazarkot village ,1680m.,25 06 1987.  
Mainly *Callerebia* specimens were recorded  
on the grassy shady slopes in the openings  
of the pine forest.
- 030..... Swat,Yekhtangi Forest,2100m.,25 06 1987.  
After a heavy rain pyrophil moths were  
captured at the light trap between 9.00-  
10.00 p.m.
- 031..... Swat,Kotkai 1650m. after Bazarkot to Shangla  
direction,26 06 1987. *Chaetoprocta odata* Hew.  
around *J.regia* and *C.tuna*.
- 032..... Swat,Shangla Forest 2170m.,26 06 1987.Helio-  
phil specimens were captured in the glades.
- 033..... Swat,Shangla Forest 2170m.,26 06 1987.Pyro-  
phil moths were captured at the light trap  
on a calm night between 8.30-9.30 p.m.

- 034..... Swat, Shangla Forest, 2150m., 27 06 1987.  
Rhopalopsyche nycteis (Sphingidae) were  
captured from inside the bushes in flight.  
All were heliophil.
- 035..... Swat, Shangla Forest, 2300m., 27 06 1987.  
On gravelly hilltop and ridge, where the  
Pinus wallichiana were few, heliophil  
specimens were captured.
- 036..... Swat, Shangla Forest, 2100m., 27 06 1987.  
Inside the Pinus wallichiana forest, all  
specimens were sciophil.
- 037..... Swat, Shangla, 2000m., 27 06 1987. Steep slopes  
covered by Rhamnus, Astragalus, grasses and  
a species of Rosaceae. Especially lycaenids  
visiting in the afternoon the flowers of the  
last plant were taken. All heliophil.
- 038..... Swat, Shangla Forest, 2100m., 27 06 1987. Pyro-  
phil moths were taken at the light trap on  
a mild and calm night between 8.30-10.30 p.m.
- 039..... Swat, Shangla 2100m., 28 06 1987. Pyrophil moths  
were captured at the light trap between 8.30-  
10.30 p.m.
- 040..... Swat, Malam Jabba, 2650m., 29 06 1987. Hilltops  
and ridges were visited on a clear day.  
Diurnal specimens were however not plentiful.
- 041..... Malam Jabba, 1600m., 29 06 1987. On the way to  
the mountain. Heliophil specimens were scarce  
along the bushy roadside.
- 042..... Swat, Murghzar Hotel, 1400m., 29 06 1987. Pyro-  
phil moths were taken at the light trap. The  
Hotel is in Malakhazar, SE. Saidu Sharif.
- 043..... Swat, Gulbandhi, on the road Malakhazar to  
Saidu Sharif, 1170m., 30 06 1987. Especially  
Neochipparchia parisatis were captured on the  
dry, rocky slopes between 9.15-10.00 a.m.  
All were heliophil.
- 044..... Swat, Sharifabad 1000m., W. Mingora, 30 06 1987.  
On the roadside plants some diurnal specimens  
were observed and collected on a very hot  
day between 11.00-12.00 a.m.

- 045..... Swat, Karakar Pass 1400m., 30 06 1987. Hilly area covered by *Pinus excelsa*. On rocky, dry slopes *N. parisatis* specimens were observed in groups at rest.
- 046..... Swat, Karakar Pass, 1400m., 30 06 1987. Inside the *Pinus excelsa* forest, pyrophil moths were taken at the light trap between 8.30-10.30 p.m.
- 047..... Swat, E. Karakar Pass, 1300m., 01 07 1987. *Heliophil* specimens were captured on the rocky steep slopes between 9.00-9.30 a.m.
- 048..... Swat, Karakar Pass, 1300-1400m., 01 07 1987. *Pyrophil* moths were captured at the light trap between 9.00-11.00 p.m.
- 049..... Swat, Karakar Pass 1400m., 02 07 1987. Inside forest of *Pinus excelsa*, pyrophil moths were taken at the light trap between 9.00-11.00 p.m.
- 050..... Campus of PFI, 04 07 1987, *heliophil* specimens were observed and captured.
- 051..... Hazara, Malkandi, 10 km. SW Mahandri in the Kaghan valley, 1450m., in the glades *sciophil* *Callerebia* specimens were collected. They were also taken at the dungs in groups. Some other butterflies were also available at the site, 09 07 1987.
- 052..... Hazara, Kaghan village 2050m., 09 07 1987. *Heliophil* butterflies were captured on the damp meadows.
- 053..... Hazara, Naran village, 2470m., 09 07 1987. *Heliophil* butterflies were collected on the damp meadows.
- 054..... Hazara, Naran 2470m., 09 07 1987. Rocky steep slopes covered by *Cedrus* sp. *Pyrophil* moths, mainly geometrids were taken at the light trap on a cold but calm night between 9.15-10.30 p.m.
- 055..... Hazara, Saiful Muluk, 3250m., 10 07 1987. All were *heliophil*.

- 056..... Hazara, Naran, Katha village 2700m., 10 07 1987. Flowery meadows dominated by Leguminosae, Umbelliferae, Rosaceae and Labiatae. One of the best place for butterflies.
- 057..... Hazara, Naran, 2450m., 10 07 1987. Pyrophil moths were taken at the light trap between 8.45-9.30 p.m.
- 058..... Hazara, Naran, Katha village 2700-2800m., 11 07 1987. Rupicol noctuids and larentiids were taken by day. Other specimens were heliophil on the flowery slopes.
- 059..... Hazara, Naran, 2450m., 11 07 1987. Pyrophil moths were taken at the light trap.
- 060..... Hazara, Batrasi, 20km. NE Mansehra, 1250m., 12 07 1987. All specimens were on the wing in the evening hours and heliophil.
- 061..... A collecting place, 10km. NE. Mansehra, 1180m., 12 07 1987. Grassy gentle slopes with sparse trees. Specimens taken were heliophil.
- 062..... A collecting place, 5 km. NE. Mansehra 1150m., 12 07 1987. A narrow dry river bed with sandy ground, covered by sparse xerophytes. Heliophil butterflies were on the wing in the evening.
- 063..... Hazara, Chatter plain 1670m., SE. Batgram, 12 07 1987. Pyrophil moths were taken by day at rest.
- 064..... Hazara, Chatter hills, 1700m., 17 km. SE. Batgram 12 07 1987. Inside Pine Forest. Pyrophil moths were taken at the light trap between 8.00-10.15 p.m.
- 065..... Hazara, Indus Kohistan, N. Besham 850m. in the Indus valley. 13 07 1987. Rocky slopes with sparse bushes. Specimens were heliophil.
- 066..... Hazara, Indus Kohistan, 15 km. S. Dasu in the Indus valley, 1030m., 13 07 1987. Specimens were heliophil.
- 067..... Hazara, Indus Kohistan, Dasu 920m. in the Indus valley, 13 07 1987. Rocky walls covered by mesophil and rupicol plants. Few specimens.

- 068..... Gilgit Agency, Chilas 1280m., 13 07 1987.  
Artemisia steppe with sparse fruit trees on the slopes. Pyrophil moths were taken at the light trap on a windy night. The result was not successful.
- 069..... Gilgit Agency, Chilas 1280m., 13 07 1987.  
Few lycaenids were taken in the evening.
- 070..... Gilgit Agency, on the road to Babusar (S. Chilas) 2750m., 14 07 1987. Heliophil specimens were on the wing on wet meadows.
- 071..... Gilgit Agency, on the road to Babusar, 2050m., 14 07 1987. Heliophil specimens were on the wing on wet meadows.
- 072..... Gilgit Agency, on the road to Babusar, 1650m., 14 07 1987. Dry rocky slopes covered with Artemisia, Heliotropium, Echinops, Chenopodiaceae, etc. Mainly heliophil lycaenids were found.
- 073..... Gilgit Agency, on the road to Babusar, 1450m., 14 07 1987. Rocky slopes covered with xerophytes. Heliophil specimens were collected.
- 074..... Gilgit Agency, Chilas, 1280m., 14 07 1987.  
Artemisia steppe with Populus and Salix communities on the slopes. Pyrophil moths, mainly pyralids and noctuids were taken at the light trap.
- 075..... Gilgit Agency, about 20km. E. of Chilas, 1140m., Indus valley, 15 07 1987. Anaphaeis aurata populations with every stages of development were observed and adults were captured. All of them was heliophil.
- 076..... Gilgit Agency, Juthal, ca. 20km. N. of Gilgit, Hunza valley, 1600m., 16 07 1987. Heliophil specimens were observed and collected on flowers of Vicia.
- 077..... Gilgit Agency, Rahimabad, 1750m. (N. of Juthal), Hunza valley. Vicia meadows on the slopes. Heliophil specimens were captured. 16 07 1987.
- 078..... Gilgit Agency, S. of Nasirabad 2050m, Hunza valley, 16 07 1987. Heliophil specimens.



- 079..... Gilgit Agency, Karimabad 2350m. Hunza valley, 16 07 1987. Pyrophil moths were taken at the light trap on a calm night.
- 080..... Gilgit Agency, Karimabad 2350-2400m., Hunza valley, 16 07 1987. Heliophil butterflies were found on the flowery hillsides.
- 081..... Gilgit Agency, 15 km. S. of Gulmit 2400m. Hunza valley, 17 07 1987. Rocky steep slopes. Heliophil specimens.
- 082..... Gilgit Agency, Nazimabad (5 km. S. of Gulmit), 2450m., Hunza valley, 17 07 1987. Heliophil specimens were on the wing in the Vicia meadows.
- 083..... Gilgit Agency, Pasu 2550m., Hunza valley, 17 07 1987. In the cultivated area especially pierids were on the wing by day.
- 084..... Gilgit Agency, Pasu 2500m. Hunza valley, 17 07 1987. Rocky steep slopes with poor wild herbaceous plant cover. Pyrophil moths, especially pyralids and noctuids were captured at the light trap between 8.30-9.30 p.m.
- 085..... Gilgit Agency, E. of Deh 3600m., Khunjerab valley, 18 07 1987. Only two heliophil specimens were taken on the bare slopes.
- 086..... Gilgit Agency, Sost 2800m., Hunza valley, 18 07 1987. Rocky slopes covered by poor plant formation. Pyrophil moths were taken at the light trap.
- 087..... Gilgit Agency, Bogeet 2650m., Upper Gulmit, Hunza valley, 19 07 1987. A salt lake surrounded by bare mountains. Halophil and heliophil pyralids were found on the bank covered by halophytes. Separately heliophil butterflies were observed on the flowers of Vicia on the slopes.
- 088..... Gilgit Agency, Karimabad 2200m., Hunza valley, 19 07 1987. Rocky slopes with sparse bushes. Pyrophil moths were taken at the light trap.
- 089..... Gilgit Agency, Gilgit 1500m., 20 07 1987. River bed with stony ground, sparse grasses and trees. Pyrophil moths were taken at the light trap.

- 090..... Jammu, Baltistan, on the road to Skardu 1400m., Indus valley, 21 07 1987. Dry rocky hillsides covered with *Chenopodiaceae*, *Rutaceae*, *Artemisia* *Capparis*, and various grasses. *Heliophil* specimens were found.
- 091..... Jammu, Baltistan, Unsar 1400m., Indus valley, 21 07 1987. Wet meadows. *Heliophil* specimens were found.
- 092..... Jammu, Baltistan, 20km. W of Yelbow, Indus valley 1850m., 21 07 1987. *Heliophil* specimens were captured.
- 093..... Jammu, Baltistan, E. of Rondu 2000m., 21 07 1987. Wet meadows. *Heliophil* specimens.
- 094..... Jammu, Baltistan, Skardu 2350m., 21 07 1987. Single pyrophil specimen of *Dichagyris* sp. was taken by day.
- 095..... Jammu, Baltistan, Satpara lake 2650m., 22 07 1987. *Artemisia*-*Astragalus* steppe on rocky slopes. *Heliophil* butterflies were found.
- 096..... Gilgit Agency, SW. of Juglot, Thalachi 1450m., Indus valley, 23 07 1987. *Anaphaeis aurota* specimens were observed on the slopes, where its foodplant *Capparis* grows.
- 097..... Hazara, Indus Kohistan, between Dasu and Sazin in the Indus valley, 1070m., 23 07 1987. A single male of *Sephisa dichroa* Koll. (*Argynninae*) was taken.
- 098..... Hazara, Indus Kohistan, S. of Pattan 940m. in the Indus valley, 24 07 1987. A single pyrophil *Alphaea* sp. (*Arctiidae*) was taken at rest on the rock by day. Separately, *heliophil* butterflies were collected on the damp slopes.
- 099.. ..... Hazara, N. of Besham Qila 750m. in the Indus valley, 24 07 1987. Near the gardens some *heliophil* specimens were taken.
- 100..... Swat, Alpurai 1500m., 24 07 1987. After a heavy rain, pyrophil moths were taken at the light trap in the opening of the Pine Forest on the rocky slopes.

- 101..... Dir, Lowari Pass, 3200m., 26 07 1987. Few specimens were observed and taken at the steep slopes over the pass. On the SE. slopes, at an elevation of 2650m., heliophil specimens were collected on the damp meadows.
- 102..... Dir, Dir 1500m., 26 07 1987. Pyrophil moths were taken at the light trap on a rainy night between 8.00-9.30 p.m.
- 103..... Campus of PFI, 500m., 28 07 1987. Heliophil butterflies were taken.

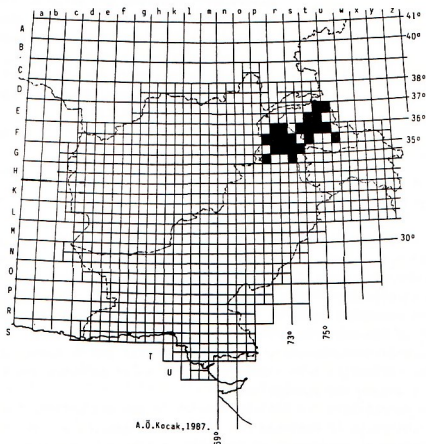
#### Acknowledgements

I would like to express my sincere thanks to Mr. Mahmood Iqbal Sheikh, Director General of Pakistan Forest Institute Peshawar, Mr. M. Ismail Chaudhry, Director of Entomology in the same Institute, who collaborate and help in planning this survey.

I am specially grateful to my friend Dr. Mirza Hakim Khan, Deputy Director, for his encouragement and interest at all times.

Mr. Wali-ur-Rahman, Ass. Forest Entomologist, and Mr. Rahmat Ullah Jan, Scientific Officer, to them I must thank for their guidance and kind assistance during the expeditions.

The hospitality and help of many officials and private individuals in different parts of Pakistan can never be forgotten; in this connection, Mr. Mohammad Alam, Conservator of Forest, Mr. Mohammad Sharif, Deputy Conservator of Forest, Gilgit, Mr. Ayub Khan, Director of Hatchery Madyan, Mr. Hanif Gul, Syst. Entomologist, PFI, Mr. Fazal Said, Executive Officer, PFI, Mr. Fazal Hussain, Geologist, and many others are gratefully remembered.



Map 1- Distribution Map of Lepidoptera of Pakistan.

Black marked quadrates were visited by the author during the expedition, 1987.